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Cc: Christopher McAlear[cmcalear@blm.gov]; Nikki Moore[nmoore@blm.gov]
From: Butts, Sally
Sent: 2017-08-22T16:29:40-04:00
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Subject: Fwd: Data Inquiry for National Monument Review
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ROV analysis 8 22 2017.docx

Aaron,

(b) (5) DPP, (b) (5) ACP



Thanks, Sally

----- Forwarded message -----

From: Moore, Nikki <nmoore@blm.gov>
Date: Wed, Aug 16, 2017 at 10:18 AM
Subject: Data Inquiry for National Monument Review
To: "Small, Stephen" <ssmall@blm.gov>
Cc: Bruce Rittenhouse <brittenh@blm.gov>, John Ruhs <jruhs@blm.gov>, "McAlear, Christopher" <cmcalear@blm.gov>, "Tryon, Steve" <stryon@blm.gov>, Karen Kelleher <kkelleh@blm.gov>, Sally Butts <sbutts@blm.gov>, Timothy Fisher <tjfisher@blm.gov>

Hi Steve,

We have a data request from the Secretary's with a quick turnaround so are exploring what might be possible with existing GIS data. They are looking for a state by state summary of the ROV's

(resources, objects, values) that also occur *outside* BLM's national monuments.

We have a spreadsheet of the ROV's within each of the monuments under review. I'm wondering if the Rapid Ecoregional Assessment data sets, or any other data sets would serve as a quick way to inform this request - at least within some states or geographic areas? Of course there are some data we cannot provide for privacy reasons (tribal, etc), but for anything else any ideas you have are appreciated!

Thanks :)

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Resources, Objects, and Values Analysis of National Monuments under Secretarial Review

Prepared by the National Operations Center at the request of the National Conservation Lands Division

National Monuments are identified for their unique Resources, Objects, and Values (ROVs). Generally, ROV categories include Archaeological, Paleontological, Historical Resources; Tribal Values; Geologic resources; Landscape and Visual Qualities; and Biological Resources (including ecology, threatened and endangered species, rare and endemic plants, and habitat, among others). Of these, only biological resource data are readily available and assessed here. The lack of readily available data is a distinct and important limitation of this analysis.

In some cases, we may have specific ROV data associated with a given Resource Management Plan, research project, or other documents or analyses. However, we do not have large-scale data sets for certain ROVs to be able to analyze ROV quality or quantity within and outside of monuments that would provide meaningful results for consideration.

In this paper, National monument boundaries were used to geographically identify the total area of biological resources (e.g., critical habitat) occurring within national monument compared to the statewide distribution of that particular resource. Biological resources are reported on a percentage basis.

Data for specific biological resource ROVs were not available in many cases. Therefore, surrogate data generally representing the status of biological and physical resources were used. Four westwide datasets were used as surrogates in the evaluation of natural resource distribution within and surrounding the National Monuments under review. These four datasets include: Sage Grouse Initiative Resilience and Resistance Data, 2014; Critical Habitat Polygons, FWS, 2015; Crucial Habitat Assessment Tool (CHAT) data, 2014; and USGS Landscape Intactness.

Analyses:

We were able to perform four distinct analyses for each monument, based on west-wide datasets. Additional analyses based on Rapid Ecoregional Assessment data were considered, but would require additional time to conduct these analyses.

Limitations:

Perhaps the most significant ROVs not addressed are all those involving cultural resources, including both prehistoric resources, historic resources, Traditional Cultural Properties, and broad-scale cultural resources. Given the purpose of the Antiquities Act, many National Monuments designated under the Act include significant cultural resources. Insofar as these resources are inventoried, the necessary data are sensitive and not available to the BLM's National Operations Center.

Geologic resources were not analyzed. Many geologic resources named as ROVs are specific, unique objects that do not occur outside the National Monuments. Other geologic ROVs are associated with particular geological formations, which may or may not exist beyond the Monuments. Data analyses on geologic formations would require additional time to conduct.

Individual plant and animal species (and ecological communities) were not analyzed. In most cases, we do have data on the distribution of plant, animal, and ecological community ROVs (generally limited to species or communities geographic range or occurrence), but the sheer number of data sets precluded analysis within the given time frame.

Landscape Intactness:

Intactness is a measure of fragmentation of the natural landscape due to human development. A higher intactness score equates to a low level of development on the landscape. Thus, the ratings of "highest" and "very high" indicate a landscape that is highly intact and not fragmented. The units of measure are the number of acres that fall into the ""highest" or "very high" intactness category. The percentages are the percentage of acres in those categories within the monument divided by the number of acres in those categories within the entire state. Most national monuments are relatively small compared to the rest of the state where they reside that they make up a very small percentage of the total for the state. Also, a limitation of this analysis is that developments are not rated on a gradient (e.g., a gravel road would constitute the same level of disturbance as a large building, albeit on a different footprint).

	State GIS Acres	Nat Mon GIS Acres	Highest	Very High	Total SUM	Total Percentage
Arizona	72,954,045	5,038,114	13,813,547	13,392,431	27,205,977	
Ironwood Forest NM		189,865	0	3,070	3,070	0.01%
Sonoran Desert NM		496,420	99,009	73,427	172,437	0.63%
Vermillion Cliffs NM		587,751	244,640	46,400	291,040	1.07%
California	101,285,455	2,535,462	13,816,628	12,076,133	25,892,761	
Berryessa Snow Mountain NM		191,353	0	2,757	2,757	0.01%
Carrizo Plain NM		247,081	0	0	0	0
Cascade-Siskiyou NM		341,073	0	0	0	0
Mojave Trails NM		1,755,956	623,423	639,447	1,262,870	4.88%
Nevada	70,764,321	4,885,557	22,159,343	18,699,075	40,858,418	
Basin and Range NM		2,832,890	470,598	209,778	680,376	1.67%
Gold Butte NM		296,711	222,369	63,125	285,494	0.70%
Mojave Trails NM		1,755,956	0	2	2	0.00%
New Mexico	77,817,599	884,268	10,036,178	15,004,847	25,041,025	
Organ Mountains - Desert Peaks		573,538	132,349	94,345	226,694	0.91%
Rio Grande del Norte NM		310,730	0	15,575	15,575	0.06%
Oregon	62,106,743	511,609	4,012,827	6,833,710	10,846,538	
Cascade-Siskiyou NM		511,609	0	0	0	0.00%
Utah	54,334,336	13,444,905	10,308,765	8,669,944	18,978,709	
Bears Ears NM		5,916,748	382,682	431,091	813,773	4.29%
Grand Staircase Escalante NM		7,528,157	1,051,045	514,963	1,566,008	8.25%

Crucial Habitat Assessment Tool (CHAT):

The CHAT was developed by the Western Association of Fish and Wildlife Agencies as a tool identifying those habitats considered crucial to a wide variety of fish and wildlife species, both listed and non-listed. Crucial habitat describes places that are expected to contain the resources necessary for continued health of fish and wildlife populations or important ecological systems expected to provide high value for a diversity of fish and wildlife. CHAT ranks 1 (most crucial) and 2 (highly crucial) were analyzed for their prevalence on the National Monuments compared to the States as a whole. The limitations of these analyses are that not all states have complete coverage, and that the data cannot provide coverage for all species, but rather those considered priority species by the States respective fish and wildlife agencies.

	State GIS Acres	Nat Mon GIS Acres	CHATS Rating 1 Acres	CHATS Rating 2 Acres	Percent of Total CHATS Rating 1 and 2 Acres Within Each Monument, by State
Arizona	72,954,045	5,038,114	18,727	6,156	24,884
Ironwood Forest NM		189,865	no data	no data	no data
Sonoran Desert NM		496,420	no data	no data	no data
Vermillion Cliffs NM		587,751	0	211	0.85
California	101,285,45	2,535,462	23,103,94	16,973,47	40,077,411
Berryessa Snow Mountain NM		191,353	23,404	24,215	0.12
Carrizo Plain NM		247,081	160,098	49,964	0.52
Cascade-Siskiyou NM		341,073	3,332	761	0.01
Mojave Trails NM		1,755,956	62,485	30,048	0.23
Nevada	70,764,321	4,885,557	7,576,861	9,749,805	17,326,666
Basin and Range NM		2,832,890	39,874	147,111	1.08
Gold Butte NM		296,711	30,859	64,420	0.55
Mojave Trails NM		1,755,956	0	0	0.00
New Mexico	77,817,599	884,268	8,793,080	8,109,202	16,902,282
Organ Mountains - Desert Peaks		573,538	76,680	9,338	0.51
Rio Grande del Norte NM		310,730	43,689	86,480	0.77
Oregon	62,106,743	511,609	19,203,97	17,567,26	36,771,237
Cascade-Siskiyou NM		511,609	33,394	77,385	0.30
Utah	54,334,336	13,444,90	8,375,099	13,973,62	22,348,725
Bears Ears NM		5,916,748	17,905	579,128	2.67
Grand Staircase Escalante NM		7,528,157	19,853	100,428	0.54

Critical Habitat:

Many of the National Monuments contain habitat for species listed under the Endangered Species Act (ESA) identified as ROVs. While no consistent dataset exists for general habitat for listed species, we analyzed the amount of designated Critical Habitat for listed species in each monument in a simple comparison to the amount of designated Critical Habitat in their respective States. The limitation of these analyses is that there are many species listed under the ESA for which Critical Habitat has not been designated, and therefore, while this can be considered an indicator of listed species habitat, it is incomplete.

	State GIS Acres	Nat Mon GIS Acres	Total Critical Habitat Acres	Percent of Total Critical Habitat Acres Within Each Monument, by State
Arizona	72,954,045	5,038,114	5,670,316	
Ironwood Forest NM		189,865	0	0%
Sonoran Desert NM		496,420	0	0%
Vermillion Cliffs NM		587,751	0	0%
California	101,285,455	2,535,462	15,959,897	
Berryessa Snow Mountain NM		191,353	0	0%
Carrizo Plain NM		247,081	32	0.0%
Cascade-Siskiyou NM		341,073	0	0%
Mojave Trails NM		1,755,956	647,290	4.1%
Nevada	70,764,321	4,885,557	2,155,411	
Basin and Range NM		2,832,890	0	0%
Gold Butte NM		296,711	137,597	6.4%
Mojave Trails NM		1,755,956	54	0.0%
New Mexico	77,817,599	884,268	2,473,438	
Organ Mountains - Desert Peaks NM		573,538	0	0%
Rio Grande del Norte NM		310,730	153	0.0%
Oregon	62,106,743	511,609	5,258,006	
Cascade-Siskiyou NM		511,609	35,994	0.7%
Utah	54,334,336	13,444,905	3,571,708	
Bears Ears NM		5,916,748	595,980	16.7%
Grand Staircase Escalante NM		7,528,157	444,711	12.5%

Sage-Grouse Resilience and Resistance:

West-wide datasets exist for resilience and resistance to disturbance for sage-grouse. Resilience refers to the ability of an ecosystem to recover following disturbance and resistant ecosystems have the capacity to retain their fundamental structure, processes, and functioning when exposed to stresses, disturbances, or invasive species. We analyzed the prevalence of area rated with high resilience and resistance for each monument as compared to the total in their respective States. The limitation of these analyses is that the ratings tend to be associated with resistance to cheatgrass invasion, and conditions are not necessarily supportive of cheatgrass in all ecosystems.

	State GIS Acres	Nat Mon GIS Acres	High SG Resilience and Resistance Acres	Percent of Total High SG Resilience and Resistance Acres Within Each Monument, by State
Nevada	70,764,321	4,885,557	3,398,083	
Basin and Range NM		2,832,890	1,151	0.03%
Oregon	62,106,743	511,609	13,022,159	
Cascade-Siskiyou NM		511,609	97,829	0.8%
Utah	54,334,336	13,444,905	12,469,033	
Bears Ears NM		5,916,748	142,385	1.1%